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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/589,807

05/15/2007

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EXAMINER

EOFF, ANCA

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

04/21/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,807	<b>Applicant(s)</b> KOMORIYA ET AL.	
	<b>Examiner</b> ANCA EOF	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3,6,9-12,18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3,6,9-12,18 and 20-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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### **DETAILED ACTION**

1. Claims 3, 6, 9-12, 18 and 20-24 are pending in the application. Claims 1-2, 4-5, 7-8, 13-17 and 19 have been canceled.

2. The foreign priority document JP 2004-044142, filed on February 20, 2004 was received and acknowledged. However, in order to benefit of the earlier filing date, a certified English translation is required.

### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

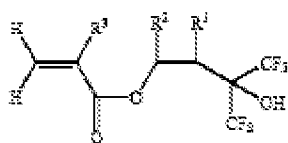
Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claim 3 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 18 of U.S. Patent No. 7,205,443. Although the conflicting claims are not identical, they are not patentably distinct from each other

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because the instant application and the US Patent 7,205,443 claim the same compounds.

US Patent 7,205,443 claims the compound of formula:



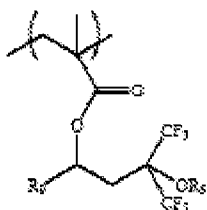
, wherein:

- R<sup>1</sup> represents a hydrogen atom, a acyclic or cyclic alkyl group with 107 carbon atoms;
- R<sup>2</sup> may be a cyclic alkyl with up to 7 carbon atoms, and
- R<sup>3</sup> may be hydrogen or a fluorinated alkyl with 1-4 carbon atoms.

The compound above is equivalent to the compound of formula (3) of claim 3 of the instant application, wherein R<sub>6</sub>, R<sub>7</sub> are hydrogen atoms, R<sub>5</sub> may be a hydrogen atom or a fluorinated alkyl with 1-4 carbon atoms, R<sub>8</sub> is a carbonyl group, R<sub>4</sub> is a hydrogen atom, R<sub>1b</sub> is a cyclic alkyl with up to 7 carbon atoms, R<sub>2</sub> is a hydrogen atom and R<sub>3</sub> may be hydrogen or a fluorinated alkyl with 1-4 carbon atoms.

5. Claim 10 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 5 of U.S. Patent No. 7,402,626. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant application and the US Patent 7,402,626 claim the same polymer.

US Patent 7,402,626 claims a polymer comprising the unit of formula:



, wherein R<sub>9</sub> may be an alicyclic group and R<sub>5</sub> may be a hydrogen atom.

The unit above is equivalent to the repeating unit of formula (10) in claim 10 of the instant application, wherein R<sub>6</sub>, R<sub>7</sub> are hydrogen atoms, R<sub>5</sub> is a methyl group, R<sub>8</sub> is a carbonyl group, R<sub>4</sub> is a hydrogen atom, R<sub>1b</sub> may be an alicyclic group (cyclic alkyl group), R<sub>2</sub> and R<sub>3</sub> are hydrogen atoms.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –  
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

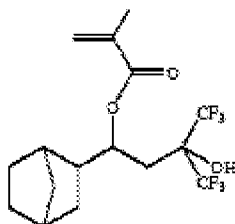
7. Claims 3, 6, 9-12, 18 and 20-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Maeda et al. (US Pg-Pub 2005/0250898).

The applied reference has a common inventors and common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention

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disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With regard to claims 3, 6 and 9, Maeda et al. disclose the compound of formula (I):



(I) (compound of formula (31) in par.0079).

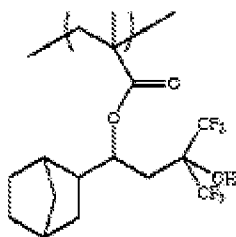
The compound of formula (I) is equivalent to the compound of formula (3) in claim 3 of the instant application, wherein  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_6$  and  $R_7$  are hydrogen atoms,  $R_5$  is a methyl group,  $R_{1b}$  is a norbornyl group ( $C_7$  cyclic alyl) and  $R_8$  is a carbonyl group.

The compound of formula (I) is equivalent to the compound of formula (6) in claim 6 of the instant application, wherein  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_6$  and  $R_7$  are hydrogen atoms,  $R_5$  is a methyl group,  $a=0$ ,  $b=1$ ,  $c=1$ ,  $R_{10}$  and  $R_{11}$  are bonded together,  $R_8$  is a carbonyl group.

The compound of formula (I) is equivalent to the compound of formula (9) in claim 9, wherein  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_6$  and  $R_7$  are hydrogen atoms,  $R_5$  is a methyl group and  $R_8$  is a carbonyl group.

With regard to claims 10-12, Maeda et al. disclose a polymer comprising the unit of formula (II):

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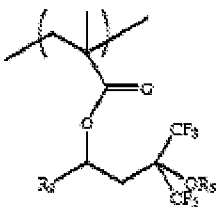
(II) (see polymer of formula (32) in par.0079), wherein the polymer has a weight average molecular weight of 6,700 (see table 2 in par. 0080).

The unit of formula (II) is equivalent to the unit of formula (10) in claim 10, wherein  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_6$  and  $R_7$  are hydrogen atoms,  $R_5$  is a methyl group,  $R_{1b}$  is a norbornyl group ( $C_7$  cyclic alkyl) and  $R_8$  is a carbonyl group.

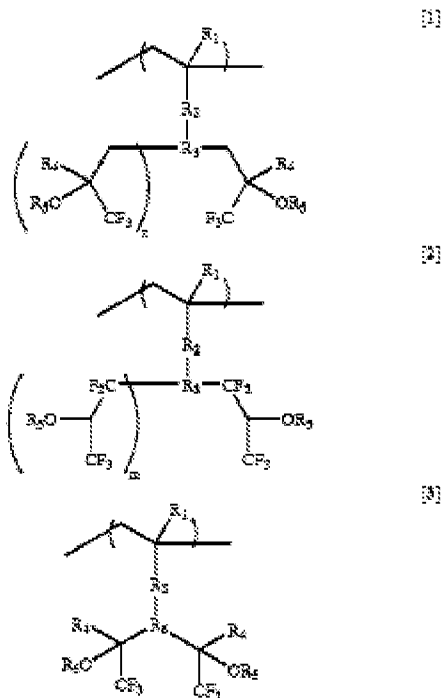
The unit of formula (II) is equivalent to the unit of formula (11) in claim 11, wherein  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_6$  and  $R_7$  are hydrogen atoms,  $R_5$  is a methyl group,  $a=0$ ,  $b=1$ ,  $c=1$ ,  $R_{10}$  and  $R_{11}$  are bonded together,  $R_8$  is a carbonyl group.

The unit of formula (II) is equivalent to the unit of formula (12) in claim 12, wherein  $R_2$ ,  $R_3$ ,  $R_4$ ,  $R_6$  and  $R_7$  are hydrogen atoms,  $R_5$  is a methyl group and  $R_8$  is a carbonyl group.

With regard to claims 18 and 24 Maeda et al. disclose that copolymers may be formed from the unit of formula (III):



(III) (formula (5) in par.0028) with at least one unit of formulas (1), (2) and (3):



(see formulas (1), (2) and (3) in par.0009 and par. 0028).

In the formula (III) above,  $R_9$  may be an alicyclic group and  $R_5$  may be a hydrogen atom or a protecting group (par.0028). This unit above is equivalent to the repeating unit of formula (10) in claim 10 of the instant application, wherein  $R_6$ ,  $R_7$  are hydrogen atoms,  $R_5$  is a methyl group,  $R_8$  is a carbonyl group,  $R_4$  is a hydrogen atom,  $R_{1b}$  may be an alicyclic group (cyclic alkyl group),  $R_2$  and  $R_3$  are hydrogen atoms.

In the formulas (1), (2) and (3) above,  $R_5$  may be a protecting group (par.0009) so the copolymers may comprise protecting groups/acid-labile groups.

When  $R_5$  in the unit of formula (III) is a protecting group, the limitation of claim 24 is met.



With regard to claims 20-21, Maeda et al. disclose that the copolymers are used for topcoat compositions (see abstract) and such compositions may also comprise acid generators and quenchers (par.0048).

The topcoat composition comprising a copolymer, an acid generator and a quencher is equivalent to the chemically-amplified resist material of the instant application.

With regard to claims 22-23, Maeda et al. disclose a process comprising the steps of:

- coating the topcoat composition on a substrate having a resist material deposited thereon (par.0051), which is equivalent to step (a) in claim 22;
- drying (par.0051), which is equivalent to step (b) in claim 22;
- light irradiating (par.0051), which is equivalent to step (c) in claim 22;
- heating and developing (par.0051), which is equivalent to step (d) in claim 22.

Maeda et al. further disclose that the exposure may be performed with light sources such as an ArF laser (193 nm), F<sub>2</sub> laser (157 nm) (par.0050).

### ***Terminal Disclaimer***

8. The terminal disclaimer filed on January 09, 2009 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent 7,385,091 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Response to Arguments***

9. Applicant's arguments, see the Remarks, filed on January 09, 2009, with respect to the rejection of claims 3, 6, 9-12, 18 and 20 under 35 USC 103(a) over Ito et al. (J. Photopolymer Sci. and Tech., 16(4): 523-36 (2003) and the rejection of claims 3, 6, 9-12, 18 and 20-24 under 35 103(a) over Komoriya et al. (US Pg-Pub 2003/0232940) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are presented in paragraphs 3-7 above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANCA EOFF whose telephone number is (571)272-9810. The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. E./

Examiner, Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795